1. Record Nr. UNINA9910815353103321

Autore	Havil Julian <1952->
Titolo	Nonplussed! : mathematical proof of implausible ideas / / Julian Havil
Pubbl/distr/stampa	Princeton, N.J. ; ; Woodstock, : Princeton University Press, 2010
ISBN	1-4008-3738-3 1-282-72200-X 9786612722004 0-691-12056-0
Edizione	[Course Book]
Descrizione fisica	1 online resource (213 p.)
Disciplina	510
Soggetti	Mathematical recreations Mathematics Paradox - Mathematics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front matter -- Contents -- Preface -- Acknowledgements -- Introduction -- Chapter 1. Three Tennis Paradoxes -- Chapter 2. The Uphill Roller -- Chapter 3. The Birthday Paradox -- Chapter 4. The Spin of a Table -- Chapter 5. Derangements -- Chapter 6. Conway's Chequerboard Army -- Chapter 7. The Toss of a Needle -- Chapter 8. Torricelli's Trumpet -- Chapter 9. Nontransitive Effects -- Chapter 10. A Pursuit Problem -- Chapter 11. Parrondo's Games -- Chapter 12. Hyperdimensions -- Chapter 13. Friday the 13th -- Chapter 14. Fractran -- The Motifs -- Appendix A. The Inclusion-Exclusion Principle -- Appendix B. The Binomial Inversion Formula -- Appendix C. Surface Area and Arc Length -- Index
Sommario/riassunto	Math--the application of reasonable logic to reasonable assumptions--usually produces reasonable results. But sometimes math generates astonishing paradoxes--conclusions that seem completely unreasonable or just plain impossible but that are nevertheless demonstrably true. Did you know that a losing sports team can become a winning one by adding worse players than its opponents? Or that the thirteenth of the month is more likely to be a Friday than any other day? Or that cones can roll unaided uphill? In Nonplussed!--a delightfully

eclectic collection of paradoxes from many different areas of math--popular-math writer Julian Havil reveals the math that shows the truth of these and many other unbelievable ideas. Nonplussed! pays special attention to problems from probability and statistics, areas where intuition can easily be wrong. These problems include the vagaries of tennis scoring, what can be deduced from tossing a needle, and disadvantageous games that form winning combinations. Other chapters address everything from the historically important Torricelli's Trumpet to the mind-warping implications of objects that live on high dimensions. Readers learn about the colorful history and people associated with many of these problems in addition to their mathematical proofs. Nonplussed! will appeal to anyone with a calculus background who enjoys popular math books or puzzles.